SEQUENCE LISTING

<110> POSCO
POSTECH Foundation
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HWANG, Dong Soo

<120> Mussel Bioadhesive

<130> 20010-06USA

<140> 10/599,313
<141> 2006-08-25

<150> US 60/556,805
<151> 2004-03-26

<150> PCT/KR2005/000888
<151> 2005-03-25

<160> 35

<170> PatentIn version 3.5

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<220>
<223> primer

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gtagatctat acgccggacc agtgaacag 29

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<220>
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<400> 3
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<213> Artificial Sequence

<220>
<223> primer

<400> 4
aaaaacagcg gaaaatacaa g 21

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<213> Artificial Sequence

<220>
<223> Mytilus galloprovincialis

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ggtagttatc acggatccgg ctatcatgga ggatataagg gaaagtatta cggaaaggca 120

aagaaatact attataaata taaaaacagc ggaaaataca agtatctgaa gaaagctaga 180

aaataccata gaaagggtta caagaagtat tatggaggtg gtagcagt 228

<210> 6
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mytilus galloprovincialis

<400> 6

Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Thr Tyr His
1 5 10 15

Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr
20 25 30

Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys
35 40 45

Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg
50 55 60

Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Gly Ser Ser
65 70 75

<210> 7
<211> 180
<212> DNA
<213> Artificial Sequence

<220>

<223> mytilus edulis

<400> 7
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gctaaaccta gctatccacc tacgtacaaa gctaaaccgt cttacccgcc gacttacaaa 120

gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttacccccc gacttacaaa 180

<210> 8
<211> 60
<212> PRT
<213> Artificial Sequence

<220>
<223> mytilus edulis

<400> 8

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

<210> 9
<211> 411
<212> DNA
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-150)

<400> 9
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gctaaaccta gctatccacc tacgtacaaa gctaaaccgt cttacccgcc gacttacaaa 120

gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttacccccc gacttacaaa 180

agttctgaag aatacaaggg tggttattac ccaggcaatt cgaaccacta tcattcaggt 240

ggtagttatc acggatccgg ctaccatgga ggatataagg gaaagtatta cggaaaggca 300

aagaaatact attataaata taaaaacagc ggaaaataca agtatctaaa gaaagctaga 360

aaataccata gaaagggtta caagaagtat tatggaggta gcagtgaatt c 411

<210> 10
<211> 137
<212> PRT

<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-150)

<400> 10

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe
130 135

<210> 11
<211> 411
<212> DNA
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-051)

<400> 11
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ggtagttatc acggatccgg ctaccatgga ggatataagg gaaagtatta cggaaaggca 120

aagaaatact attataaata taaaaacagc ggaaaataca agtatctaaa gaaagctaga 180

aaataccata gaaagggtta caagaagtat tatggaggta gcagtgaatt cgctaaaccg 240

tcttacccgc cgacctacaa agcaaaaccc tcgtacccac cgacttataa ggctaaacct 300

agctatccac ctacgtacaa agctaaaccg tcttacccgc cgacttacaa agcaaaaccg 360

tcctaccctc cgacctataa ggctaaaccg agttaccccc cgacttacaa a 411

<210> 12
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-051)

<400> 12

Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His
1 5 10 15

Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr
20 25 30

Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys
35 40 45

Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg
50 55 60

Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro
65 70 75 80

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
85 90 95

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
100 105 110

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala
115 120 125

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
130 135

<210> 13
<211> 591
<212> DNA
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-151)

<400> 13
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gctaaaccta gctatccacc tacgtacaaa gctaaaccgt cttacccgcc gacttacaaa 120

gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttacccccc gacttacaaa 180

agttctgaag aatacaaggg tggttattac ccaggcaatt cgaaccacta tcattcaggt 240

ggtagttatc acggatccgg ctaccatgga ggatataagg gaaagtatta cggaaaggca 300

aagaaatact attataaata taaaaacagc ggaaaataca agtatctaaa gaaagctaga 360

aaataccata gaaagggtta caagaagtat tatggaggta gcagtgaatt cgctaaaccg 420

tcttacccgc cgacctacaa agcaaaaccc tcgtacccac cgacttataa ggctaaacct 480

agctatccac ctacgtacaa agctaaaccg tcttacccgc cgacttacaa agcaaaaccg 540

tcctaccctc cgacctataa ggctaaaccg agttaccccc cgacttacaa a 591

<210> 14
<211> 197
<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-151)

<400> 14

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
130 135 140

Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
145 150 155 160

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
165 170 175

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
180 185 190

Pro Pro Thr Tyr Lys
195

<210> 15
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-5) in pMDG05 vector

<400> 15
atgggggttt ctcatcatca tcatcatcat ggtatggcta gcatgactgg tggacagcaa 60

atgggtcgga ctctgtacga cgatgacgat aaggatcgat ggggatccga gctcgagatc 120

tgcagcagtt ctgaagaata caagggtggt tattacccag gcaattcgaa ccactatcat 180

tcaggtggta gttatcacgg atccggctac catggaggat ataagggaaa gtattacgga 240

aaggcaaaga aatactatta taaatataaa aacagcggaa aatacaagta tctaaagaaa 300

gctagaaaat accatagaaa gggttacaag aagtattat 339

<210> 16
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive recombinant protein expressed in pMDG05 vector

<400> 16

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15

Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys
35 40 45

Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser
50 55 60

Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly
65 70 75 80

Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys
85 90 95

Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr
100 105 110

Tyr Gly Gly Ser Ser
115

<210> 17
<211> 435
<212> DNA
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-150) in pMDG150 vector

<400> 17
atgggggttt ctcatcatca tcatcatcat ggtatggcta gcgctaaacc gtcttacccg 60

ccgacctaca aagcaaaacc ctcgtaccca ccgacttata aggctaaacc tagctatcca 120

cctacgtaca aagctaaacc gtcttacccg ccgacttaca aagcaaaacc gtcctaccct 180

ccgacctata aggctaaacc gagttacccc ccgacttaca aaggctgcag ttctgaagaa 240

tacaagggtg gttattaccc aggcaattcg aaccactatc attcaggtgg tagttatcac 300

ggatccggct accatggagg atataaggga aagtattacg gaaaggcaaa gaaatactat 360

tataaatata aaaacagcgg aaaatacaag tatctaaaga aagctagaaa ataccataga 420

aagggttaca agaag 435

<210> 18
<211> 151
<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive recombinant protein expressed in pMDG150 vector

<400> 18

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Ala Lys
1 5 10 15

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
20 25 30

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser
35 40 45

Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu
65 70 75 80

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
85 90 95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
100 105 110

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
115 120 125

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
130 135 140

Lys Tyr Tyr Gly Gly Ser Ser
145 150

<210> 19
<211> 531
<212> DNA
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-051) in pMDG051 vector

<400> 19
atgggggttt ctcatcatca tcatcatcat ggtatggcta gcatgactgg tggacagcaa 60

atgggtcgga ctctgtacga cgatgacgat aaggatcgat ggggatccga gctcgagatc 120

tgcagcagtt ctgaagaata caagggtggt tattacccag gcaattcgaa ccactatcat 180

tcaggtggta gttatcacgg atccggctac catggaggat ataagggaaa gtattacgga 240

aaggcaaaga aatactatta taaatataaa aacagcggaa aatacaagta tctaaagaaa 300

gctagaaaat accatagaaa gggttacaag aagtattatg gaggtagcag tgaattcgct 360

aaaccgtctt acccgccgac ctacaaagca aaaccctcgt acccaccgac ttataaggct 420

aaacctagct atccacctac gtacaaagct aaaccgtctt acccgccgac ttacaaagca 480

aaaccgtcct accctccgac ctataaggct aaaccgagtt acccccccgac t 531

<210> 20
<211> 179

<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive recombinant protein expressed in pMDG051 vector

<400> 20

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15

Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys
35 40 45

Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser
50 55 60

Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly
65 70 75 80

Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys
85 90 95

Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr
100 105 110

Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
115 120 125

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
130 135 140

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala
145 150 155 160

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro
165 170 175

Thr Tyr Lys

<210> 21
<211> 639
<212> DNA
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-151) in

pMDG151 vector

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ccgacctaca aagcaaaacc ctcgtaccca ccgacttata aggctaaacc tagctatcca 120

cctacgtaca aagctaaacc gtcttacccg ccgacttaca aagcaaaacc gtcctaccct 180

ccgacctata aggctaaacc gagttacccc ccgacttaca aaggctgcag ttctgaagaa 240

tacaagggtg gttattaccc aggcaattcg aaccactatc attcaggtgg tagttatcac 300

ggatccggct accatggagg atataaggga aagtattacg gaaaggcaaa gaaatactat 360

tataaatata aaaacagcgg aaaatacaag tatctaaaga aagctagaaa ataccataga 420

aagggttaca agaagtatta tggaggtagc agtgaattcg ctaaaccgtc ttacccgccg 480

acctacaaag caaaaccctc gtacccaccg acttataagg ctaaacctag ctatccacct 540

acgtacaaag ctaaaccgtc ttacccgccg acttacaaag caaaaccgtc ctaccctccg 600

acctataagg ctaaaccgag ttacccccg acttacaaa 639

<210> 22
<211> 213
<212> PRT
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-151) in pMDG151 vector

<400> 22

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Ala Lys
1 5 10 15

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
20 25 30

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser
35 40 45

Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu
65 70 75 80

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
85 90 95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
100 105 110

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
115 120 125

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
130 135 140

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
145 150 155 160

Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
165 170 175

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
180 185 190

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
195 200 205

Pro Pro Thr Tyr Lys
210

<210> 23
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 23
ggtacccgaa ttcgaattcg ctaaaccg 28

<210> 24
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 24
ggtcgactca agcttatcat ttgtaagtcg 30

<210> 25
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> mytilus edulis

<400> 25

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
1 5 10

<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 26
gctaaaccgt cttacccgcc gacctacaaa 30

<210> 27
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 27
gcaaaaccct cgtacccacc gacttataag 30

<210> 28
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 28
gctaaaccta gctatccacc tacgtacaaa 30

<210> 29
<211> 30
<212> DNA
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<220>
<223> Mytilus edulis

<400> 29
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<210> 30
<211> 30
<212> DNA
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<220>
<223> Mytilus edulis

<400> 30
gcaaaaccgt cctaccctcc gacctataag 30

<210> 31
<211> 30
<212> DNA
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<220>
<223> Mytilus edulis

<400> 31
gctaaaccga gttacccccc gacttacaaa 30

<210> 32
<211> 20
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<220>
<223> primer

<400> 32
aattaaccct cactaaaggg 20

<210> 33
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<212> DNA
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<220>
<223> primer

<400> 33
gtaatacgac tcactatagg gc 22

<210> 34
<211> 26
<212> DNA
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<223> primer

<400> 34
cctaacatat gggggttctc atcatc 26

<210> 35
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 35
atccgccaaa acagccaagc tt 22